

XLVII.—*New Species of Saccopteryx, Sciurus, Rhipidomys, and Tatu from South America.* By OLDFIELD THOMAS.

*Saccopteryx canescens*, sp. n.

Closely allied to *S. leptura* and agreeing with it in all important respects, in size (or, perhaps, rather smaller), position of wing-sac, insertion of wing-membrane on the ankle, and the main characters of the skull and dentition.

But the ears are narrower, their inner margin above being faintly concave instead of being evenly convex throughout; the tragus is also slightly smaller and narrower.

The main difference, however, is in colour. *S. leptura* is dull chestnut-brown all over, with the exception of the two whitish lines which run down the back. *S. canescens*, on the other hand, is light greyish olivaceous, the part between the lines darker than that outside them; this colour results from the hairs being pale brown, finely tipped with buffy; the lines themselves are prominent and begin rather further up the body, almost on the neck. The head is greyish, with two fairly distinct whitish lines running along over each eye. Under surface soiled buffy, the hairs being plumbeous basally and buffy terminally. Interfemoral, as in *S. leptura*, hairy to the exertion of the tail.

The skull is rather smaller and more delicately built, the postorbital processes are short and blunt, and the teeth are extremely small and delicate. The upper canines are particularly slender and weak, and the distance between their tips in the type is only 2·4 millim. instead of 2·7 millim.

Dimensions of the type:—

Forearm 39 millim.

Skull: extreme length 13·2; basal length 10·8; zygomatic breadth 8·2; interorbital breadth 3·1; breadth between tips of postorbital processes 4·2; intertemporal breadth 2·1; breadth of brain-case on squamosals 6·5; combined length of upper molars 2·8; length of lower tooth-row exclusive of incisors 5·1.

A spirit-specimen (♂) measures:—Forearm 36 millim.; head and body 38; tail 13; tail free from membrane 3; ear 11; tibia 16; hind foot, s. u. 5·6, c. u. 6·5; calcar 15.

*Hab.* (of type). Obidos, on the Amazon. Other specimens in the Museum from the Orinoco and Surinam.

*Type* (apparently female). B.M. no. 99. 11. 2. 2. Collected 21st May, 1898, and presented by J. Trumbull, Esq.

In spite of its close identity in all essential characters with

*S. leptura*, I cannot believe that this very differently coloured bat, which more resembles *Rhynchonycteris naso* in its general appearance, should be assigned to that species. Schreber's animal is figured as dark brown, without any trace of supra-orbital white streaks, and is therefore clearly the darker coloured of the two forms.

*Saccopteryx gymnura*, sp. n.

Size about as in *S. leptura*. Ears narrow, generally shaped as in *S. leptura*, but with a slight concavity at the upper third of the inner margin, as in *S. canescens*. Tragus of median length, its inner and outer margins straight, its tip rounded off. Nostrils and lips as in *S. leptura*. Feet quite different from those of the other members of the subgenus *Saccopteryx*, for instead of being long and wholly free of the membranes, they are short, stumpy, and involved in the membranes, the wing-membrane being attached towards the distal end of the metatarsus and the calcar being bound to the foot nearly up to the base of the fifth toe. Wing-sac as in the restricted *Saccopteryx*. Base of interfemoral membrane practically naked above, contrasting in this respect with the other species; there are a few fine hairs on this part, but they are almost imperceptible.

Colour apparently, so far as can be judged by a spirit-specimen, dark throughout, as in the true *S. leptura*. The centre of the back has unfortunately lost its fur, so that I cannot say if light stripes were present; in all probability they were.

Skull in its size and delicate build closely similar to that of *S. canescens*, but the postorbital processes are very much more developed, standing boldly out to the level of the zygomatic (see measurements).

Dimensions of the type (in spirit):—

Forearm 35 millim.

Head and body 37; tail 14·5; ear 13; tragus (on inner edge) 2·5; tibia 13; hind foot, s. u. 4, c. u. 4·5; calcar 11.

Skull: extreme length 12·7; basal length 10·4; zygomatic breadth 8; interorbital breadth 3·3; tip to tip of post-orbital processes 5·9; intertemporal breadth 1·7; breadth of brain-case 6·1; length of upper molars 2·7; front of lower canine to back of  $m_3$  5.

*Hab.* Santarem, on the Amazon.

*Type.* Female. B.M. no. 75. 10. 22. 2. Specimen *c* of *S. leptura* in Dobson's Catalogue. Collected by Mr. Wickham.

The marked difference in the structure of the feet, in which

it approaches the subgenus *Centronycteris*, and the nakedness of the interfemoral will readily distinguish this bat from any of its allies.

*Sciurus Ingrami*, sp. n.

Size about as in "*S. astuans cuscinus*" and *S. irroratus*, larger than in the true *S. astuans*. Fur longer and looser than in *S. astuans*, hairs on back about 12 millim. in length. General colour above finely grizzled olivaceous grey, varying somewhat towards brownish; the individual hairs blackish, with yellow subterminal rings. Head like back. Eyes surrounded by whitish rings. Ears rather more fulvous, the hairs dark basally, with fulvous tips. But little or no trace of a yellowish postauricular patch. Chin and throat white. Chest and belly pale buffy, varying almost to white, the hairs sometimes plumbeous basally, sometimes buffy to the roots; line of demarcation on sides not sharply defined. Outer side of limbs and upper surfaces of hands and feet like back, the digits tending rather more towards yellowish. Inner side of limbs buffy, like the belly. Tail-hairs broadly ringed for their basal two thirds with dull fulvous and black, their distal thirds black subterminally and yellowish white distally, the two latter colours giving the general tone of grizzled black washed with yellowish to the tail as a whole. Mammæ 8, one pair in or close behind the axillæ, two pairs on the belly, and one in the groin\*. (Three females examined.)

Dimensions of the type (measured in the flesh):—

Head and body 190 millim.; tail 185; hind foot, s. u. 44, c. u. 48; ear 21.

Skull: greatest length 49; basilar length 37; greatest breadth 28; nasals 15 (diagonally)  $\times$  6.5; interorbital breadth 16; palate from henselion 21.7; diastema 13; length of upper tooth-series 7.3.

*Hab.* Tunnel, Southern Minas Geraes: alt. 1200 m. (Two specimens.) Two other specimens from Cruzeiro, São Paulo: alt. 530 m.

*Type.* Female. Original number 433. Collected 7th December, 1900, by Mr. Alphonse Robert.

This species is no doubt the "*Sciurus astuans*" of Wagner, Burmeister, Hensel, Pelzeln, Winge, and other writers on Brazilian mammals; but Linnæus's description is based on the squirrel of Surinam, which is decidedly smaller and both in colour and other characters is clearly a different animal. Shaw's "*Myoxus guerlingus*" is also Guianan in origin.

\* One specimen has an additional anterior mamma on the right side.

The nearest allies of *S. Ingrami* appear to be the group of Andean squirrels to which the names of *S. irroratus*, Gray (Upper Ucayali), *S. aestuans cuscinus*, Thos. (S.E. Peru), and *S. leucogaster*, Gray (Bolivia), have been given. But these Andean forms are all a darker olivaceous, less greyish in tone, their bellies are all tinged, whether strongly or feebly, with yellowish or orange instead of buffy, and they all have only three pairs of mammæ—one axillary, one ventral, and one inguinal—instead of the four pairs found in *S. Ingrami*.

It has been by the generous assistance of Sir William Ingram, Bart., that Mr. Robert has been enabled to undertake a collecting trip to Southern Brazil; and it is therefore with very great pleasure that I have connected his name with this interesting squirrel, whose study clears up an error in determination of very long standing.

*Rhipidomys benevolens*, sp. n.

Closely allied to, and of the same rich fulvous general colour as, the N. Ecuadorean *R. dryas*, Thos. Size slightly larger than in that species. Face and sides of shoulders markedly greyer than the crown and nape, which are rich fulvous like the back. Ears with their anterior coronal surface brown, their postero-internal yellowish, about as in *R. dryas*, the former not contrasting strongly with the colour of the head, as is the case in *R. phœotis*. Under surface white, the hairs white to the roots, the line of demarcation not very sharply defined, but with a clearer fulvous line edging the two colours. Hands and feet whitish fulvous above, the digits quite white. Tail uniformly blackish brown, pencilled as usual in the genus, though not heavily so.

Skull, as compared to those of *R. phœotis* and *dryas*, just intermediate in size, but without any very special characters of its own beyond what may be gathered from the measurements below. Nasals narrow. Palatal foramina not reaching level of molars.

Dimensions of the type (measured in the flesh):—

Head and body 110 millim.; tail 112; hind foot, s. u. 20, c. u. 21.5; ear 16.

Skull: greatest length 29; basilar length 22.7; greatest breadth 15.5; nasals 10.5 × 3.1; interorbital breadth 4.5; breadth of brain-case 12.5; interparietal 3.4 × 9.8; palate from henselion 12; diastema 7.3; palatal foramina 5 × 2.3; length of upper molar series 4.

*Hab.* Chimate, Upper Beni River, Bolivia, 68° W., 15° S.: alt. 700 m.

*Type.* Male. B.M. no. 1. 2. 1. 14. Original number

1234. Collected 22nd September, 1900, by Perry O. Simons. Three specimens obtained.

This species may be distinguished from *R. dryas* by its markedly larger size, skulls with worn teeth of the latter being considerably smaller than the three skulls of the new form, all rather younger. From *R. phvotis* again it may be separated by its smaller size and less darkened ears and feet. *R. microtis*, Thos., from Bogota, has smaller ears, longer palatal foramina, broader nasals, and larger molars.

*Tatu pastasæ*, sp. n.

*Tatusia Kappleri*, Thos. P. Z. S. 1880, p. 402 (in part).

Size and general appearance very much as in *T. Kappleri*, Krauss, of which there are two typical specimens in the Museum collection. But in a general way the scales are larger, so that there are fewer in each row. Thus in the single specimen there are 58 scales bordering the shoulder-shield posteriorly, as against 66 and 68 in the two specimens of *Kappleri*; 60 along the anterior and lateral edges of the same shield, as against 65 and 67; 54 in the third movable band, as against 56 and 56; 52 along the outer and posterior edges of the pelvic shield, as against 59 and 57: and similarly on the tail there are only 28 scales in the second ring, instead of 33 and 31. On the pelvic shield the scales are of less uniform size and smoothness, the larger scales standing up more prominently above the level of the smaller ones.

On the other hand, the tail-scales, especially proximally, are smoother and flatter, the centre line of each, although slightly keeled, not being raised into a prominent outwardly directed point, as is the case in *T. Kappleri*.

Manus in the single specimen with a distinct claw to the fifth digit, there thus being five claws instead of the normal four.

Back, and especially the pelvic shield, slightly, though very slightly, more hairy than in the allied species.

Other external characters apparently much as in *T. Kappleri*.

Skull closely similar in its characters to that of *T. Kappleri*, as figured by Krauss and Gray, with the following exceptions:—The lateral occipital prominences are more developed, surpassing the median ridge posteriorly. The malar bones are broader in lateral view, projecting further downwards, so that a line drawn from the lower edge of one to that of the other is just at the level of the palatal edge, instead of being surpassed below by the latter. But the chief difference lies

in the posterior palate: in *T. Kappleri* it is deeply hollowed out, and its edges rise up as sharp bony ridges some 4-5 millim. higher than its general level; in *T. pastasæ*, on the other hand, the ridges are but little developed, barely 2 millim. high in one specimen, and less than that in the other. Finally, at the posterior end of the palatal ridges the lateral walls of the choanæ are hollow and considerably inflated, while in *T. pastasæ* there is no inflation whatever and the bones appear to be fairly solid.

Dimensions of the type (measured in the dry condition):—

Length of carapace, from nape to middle line above tail (movable bands contracted), 358 millim.; length of shoulder-field in middle line 117, of pelvic ditto 162; length of middle bands over their curve across the back 44; length of tail (approximate) 400.

Skull: extreme length in middle line 126; basal length 103.5; greatest breadth 50; nasals 44.3; breadth of muzzle anteriorly 12.6; interorbital breadth 26.5; palate length 88.

*Hab.* Sarayacu, Upper Pastasa River, Oriente of Ecuador.

*Type.* B.M. no. 80. 5. 6. 71. Collected by Mr. Clarence Buckley. One skin and two skulls examined.

This species is the *T. Kappleri* of my paper on Buckley's Mammals (*l. c.*), but owing to the fact that the second skull was wrongly assigned to a skin which afterwards proved to be *T. novemcinctus*, that skin was thought to be the same form, and the characters therefore considered to be variable.

With this mistake corrected, a renewed examination shows that the Ecuadorean animal differs so much from the typical Surinam *T. Kappleri* that it should unquestionably be separated specifically.

XLVIII.—On a new "Bipolar" Schizopod.

By AXEL OHLIN, Ph.D., University of Lund.

WHEN examining the Decapoda and Schizopoda collected during the last Swedish Arctic Expeditions to Spitzbergen and East Greenland in the years 1898, 1899, and 1900, I found, to my great surprise, amongst a number of that magnificent deep-sea Mysidan *Boreomysis scyphops*, G. O. Sars, also one of the few "bipolar" animals, a nearly related form, which I must, after a careful examination, identify with *Amblyops crozetii*, Willemoes Suhm, MS., described and figured by Sars in his report on the 'Challenger' Schizopoda. My specimens—five in number, four of which are males—were